WHAT IS CLAIMED IS:

1. An electrode substrate comprising a substrate, a lower electrode, an insulating film having a liquid-repellent region and a liquid-attracting region on a surface thereof and an upper electrode, wherein the lower electrode, the insulating film and the upper electrode are layered in this order on the substrate; wherein a pattern shape of the lower electrode generally matches with that of the liquid-repellent region on the surface of the insulating film; and wherein the upper electrode is formed mainly on the liquid-attracting region excluding the liquid-repellent region on the surface of the insulating film, such that the pattern shape of the upper electrode is a self-aligned shape in which the pattern shape of the lower electrode is generally reversed.

2. A thin film transistor comprising the electrode substrate according to claim 1 and a semiconductor film, wherein, on the electrode substrate, a gate electrode is formed as the lower electrode, and a source electrode and a drain electrode are formed as the upper electrodes on the respective liquid-attracting regions isolated into two or more regions by the liquid-repellent region formed on the surface of the insulating film in a pattern shape that generally matches with the lower electrode, such that the pattern shape of the upper electrodes is a self-aligned shape in which the pattern shape of the gate

electrode, i.e., the lower electrode, is generally reversed; and wherein the semiconductor film is formed such that it extends over and covers at least a part of each of the source electrode, the drain electrode and the surface of the insulating film (gate electrode region) lying therebetween over/on said electrode substrate.

3. An active matrix thin film transistor substrate comprising the electrode substrate according to claim 1 and thin film transistors having semiconductor films, wherein, on the electrode substrate, a plurality of gate wirings/electrodes is formed as the lower electrodes, and a plurality of signal wirings, source/drain electrodes and pixel electrodes are formed as the upper electrodes on the liquid-attracting regions isolated into a plurality of regions by the liquid-repellent regions formed on the surface of the insulating film in a pattern shape that generally matches with the lower electrodes; wherein the semiconductor films are formed such that they extend over and cover at least a part of each of the source electrodes, drain electrodes and liquid-repellent regions (gate wiring/electrode regions) on the surface of the insulating films lying therebetween over/on the electrode substrate; and wherein the thin film transistors are each placed at each intersection of the gate wiring and signal wiring.

4. The active matrix thin film transistor

substrate according to claim 3, wherein a plurality of gate wirings/electrodes, having a shape in which a plurality of adjacently placed ring-shaped rectangles each having an opening are connected to each other at least at one or more locations, are adjacently placed to each other as the lower electrodes; wherein signal wirings and source/drain electrodes are each formed on the space between said rectangles in a continuous shape spreading over the connection in a self-aligned manner with respect to said gate wirings/electrodes as the upper electrodes; and wherein the pixel electrodes are each formed in an opening of said ring-shaped rectangle.

5. The active matrix thin film transistor substrate according to claim 4, wherein a width of the connection part for connecting each of a plurality of rectangles each having an opening for composing gate wirings/electrodes and a width of a space between a plurality of gate wirings/electrodes are smaller than a width of a space between a plurality of rectangles each having an opening for composing gate wirings/electrodes.

6. A liquid crystal, electrophoresis, or organic electroluminescent display device, which comprises the thin film transistor substrate according to any one of claims 3 to 5 as an active matrix switch.

7. An RFID device, which comprises the thin film transistor according to claim 2 as at least a part

thereof.

8. The electrode substrate, thin film transistor and active matrix thin film transistor substrate according to any one of claims 1 to 3, which comprises a photosensitive liquid-repellent monolayer comprising a carbon chain in which at least a part thereof is terminated with fluorine or hydrogen as a photosensitive liquid-repellent film.

9. A method for forming the electrode substrate, thin film transistor, and active matrix thin film transistor substrate according to any one of claims 1 to 5, comprising the steps of:

layering a lower electrode, an insulating film and a photosensitive liquid-repellent monolayer in this order on a substrate;

removing the photosensitive liquid-repellent monolayer from the surface of the insulating film at portions not masked by the gate electrode by back-surface exposure to form a liquid-attracting region, wherein the photosensitive liquid-repellent monolayer is processed so that the pattern shape thereof generally matches with that of the lower electrode; and

coating and calcining a liquid material (conductive ink) containing at least one of a metallic ultrafine particle, a metal complex and a conductive polymer to form an upper electrode mainly on the surface of said liquid-attracting region.

10. A method according to claim 9 for forming the

electrode substrate, thin film transistor, and active matrix thin film transistor substrate according to any one of claims 1-5, which comprises the steps of:

adjacently placing a substrate, on the surface of which a photocatalytic material comprising titanium oxide, nitrogen-doped titanium oxide, strontium titanate or the like that shows photocatalysis with a light having a wavelength that transmits the substrate, insulating film and photosensitive liquid-repellent film, but does not transmit the lower electrode, on the surface of a light-transmitting substrate on which an opaque lower electrode, a light-transmitting insulating film and a photosensitive liquid-repellent film are layered in this order; and

decomposing the photosensitive liquid-repellent film by the photocatalysis by the photocatalytic material that has absorbed the light that transmitted the substrate, insulating film and photosensitive liquid-repellent film by the back-surface exposure to be processed to a pattern having a generally same shape as that of the lower electrode.

11. The electrode substrate, thin film transistor, and active matrix thin film transistor substrate according to any one of claims 1 to 5, wherein at least one of the substrate and the insulating film is formed by a material that does not transmit a light with a photosensitive wavelength of

the photosensitive liquid-repellent film.